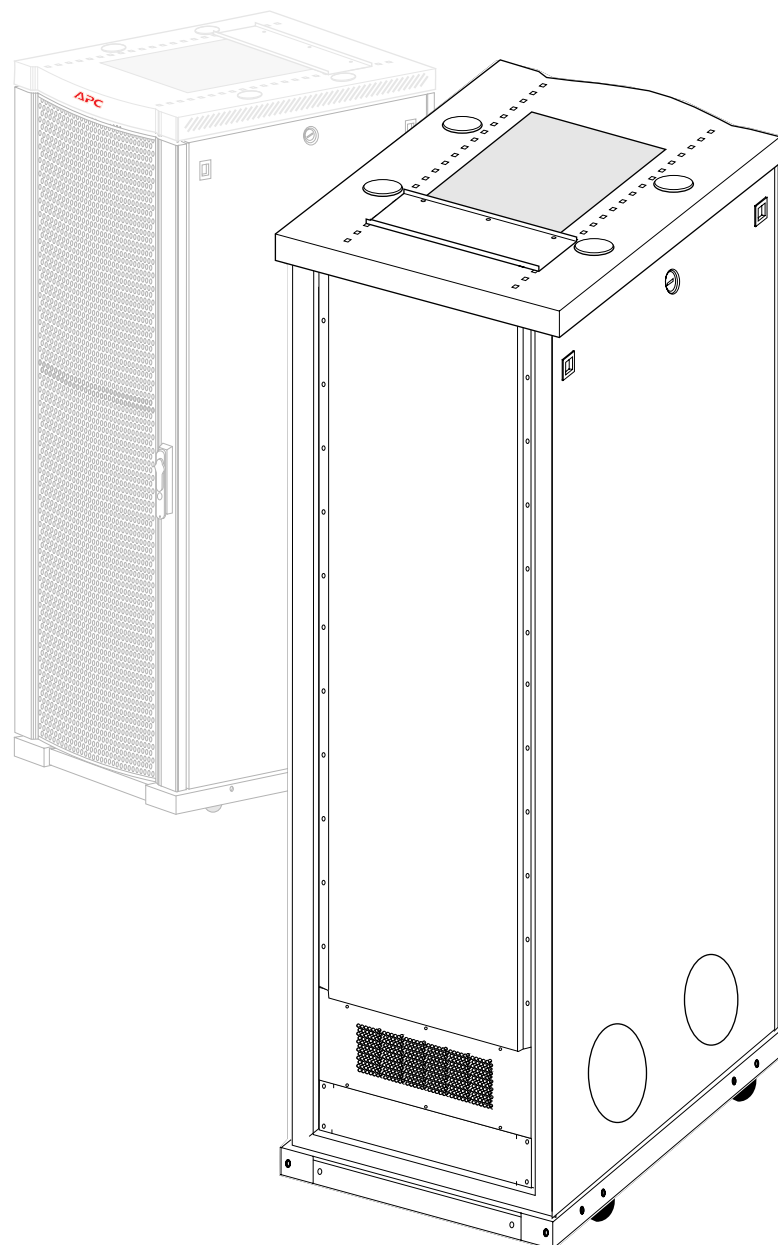


Symmetra® PX

10 - 40 kW

Extended Run (XR) Battery Enclosure Electrical Installation Guide



Extended Run (XR) Enclosure (Rear)  

1 IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

This guide contains important instructions for the UPS that should be followed during the handling of the UPS and batteries.



WARNING!
Risk of Electric Shock



CAUTION!
Read this important information



Indicates that a switch or current protection device is in the "ON" position.



Indicates that a switch is in the "OFF" position.



Indicates that a switch is in the "STAND-BY" position.

- All electrical power and power control wiring must be installed by a qualified electrician and comply with local and national regulations.
- The UPS contains an internal energy source. Hazardous voltage can be present even when disconnected from the power source. Follow Total Power Off Procedure to completely de-energize system (see Section 2).
- Remove all conductive jewelry such as chains, watches, and rings before handling the Battery Units.
- Battery Units do not contain serviceable parts. Only authorized personnel may open Battery Units. For general handling of batteries, see Appendix A.
- Do not dispose Battery Units in a fire as they may explode. Do not mutilate Battery Units. Released electrolyte may be toxic and harmful to the skin and eyes.
- For configurations including customer-supplied external batteries, refer to manufacturer's battery installation and maintenance instructions.

				
Do not lift heavy loads without assistance.	<40 lb. <18 kg	40 - 70 lb. 18 - 32 kg	70 - 120 lb. 32 - 54 kg	>120 lb. >54 kg

Figure 1

INSTALL THE XR BATTERY ENCLOSURE IN AN INDOOR, CONTROLLED ENVIRONMENT				
				
Temperature Range: 32°-104°F 0°-40°C	Keep Ventilated Front-to-Rear Airflow	Relative Humidity: <95% Non-condensing	No Conductive Dust or Corrosive Fumes	Max. Elevation: 0-10,000 ft. 0-3,000 m

Figure 2

2 Total Power OFF Procedure



WARNING!

Before electrical installations begins, verify that all systems are in the Total Power Off mode by following this procedure:

UPS

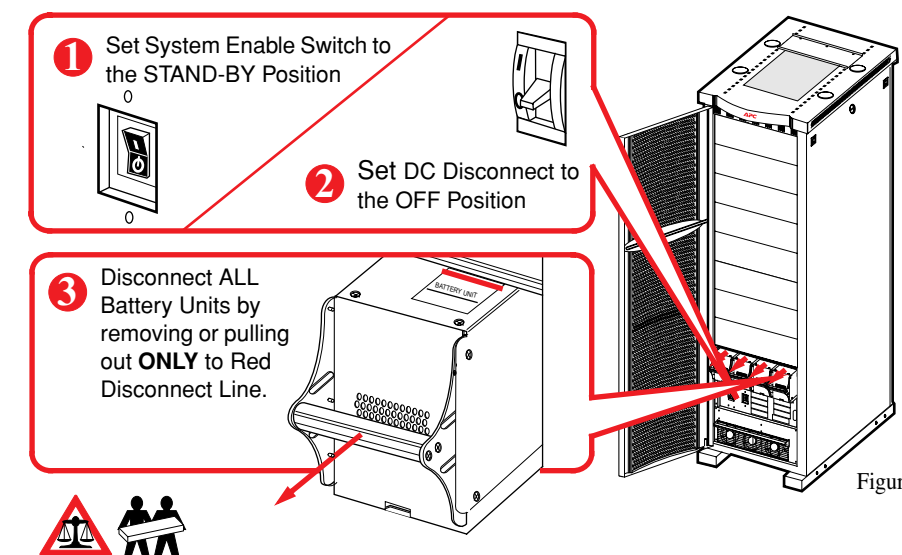


Figure 3

XR Battery Enclosure

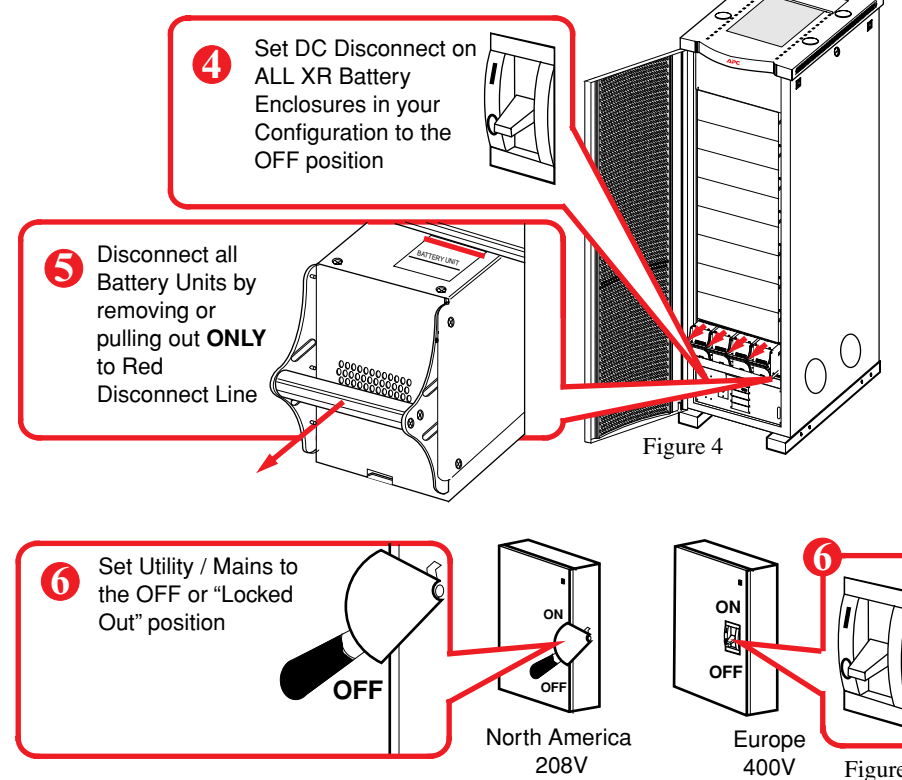


Figure 5

3 System Electrical Requirements



CAUTION!
All electrical power and power control wiring must be installed by a qualified electrician, and must comply with local and national regulations for maximum power rating

Extended Run (XR) Battery Enclosure	
Battery Voltage (nominal)	+/- 192V
Battery Current (at full load)	115 A at +/- 192V
Max. Current (at end of discharge)	137A at +/- 160V
If external batteries are customer-supplied, refer to product-specific data.	

Power and ground wires provided are for internal side-panel wiring only. NOT for use in external conduits.

Recommended Wiring for North American Installations (208 V):

- DC power Input/Output; 1/0 AWG (194°F) rated copper wire.
- Recommended cable lugs and crimping tools: Manufacturer: Framatome Connectors International (FCI).

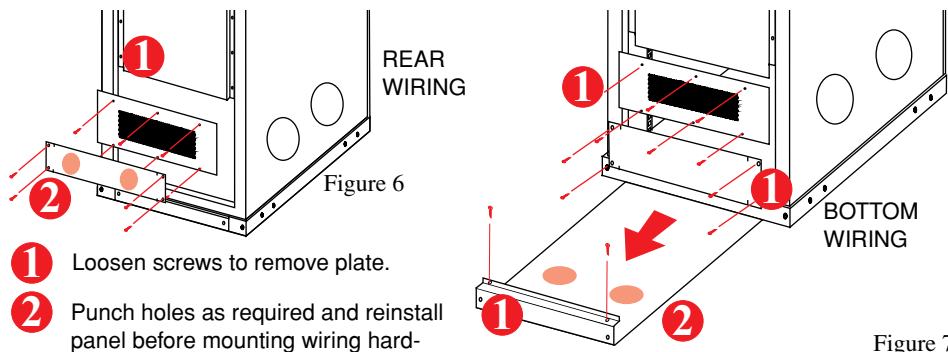
Cable Size (AWG)	Terminal bolt diameter: 8 mm		
	Cable lug type	Crimping Tool	Die
1	YA1CL2TC38	MD7-34R	W1CVT
1/0	YA25L2TC38	MD7-34R	W25VT
2/0	YA26L2TC38	MD7-34R	W26VT

Recommended Wiring for European Installations (400 V):

- DC power Input/Output: 70 mm² PVC power cables isolated to withstand a maximum ambient temperature of 40°C. External PE cable: 35 mm².

4 Rear or Bottom Wiring

- For side-panel wiring option, see Section 5
- Make sure unit is in its location of use before wiring begins.
- Use standard CAT 5 data cable. Maximum length: 165 ft. (50 m).



5 Side-Panel Wiring

- Rearrange side panels so all inner panels have adjacent wiring holes, and outer panels are solid.
- Remove rear hole covers before mounting inner panels.
- Reconnect all panel ground wires. Arrange hardware as shown in step 5. Torque value: 80 lb-in (9 Nm).
- Lock all panels.

- Use key to unlock
- Depress latches
- Pull out panel
- Lift panel off Battery Enclosure
- Remove ground wire
- Rearrange side panels

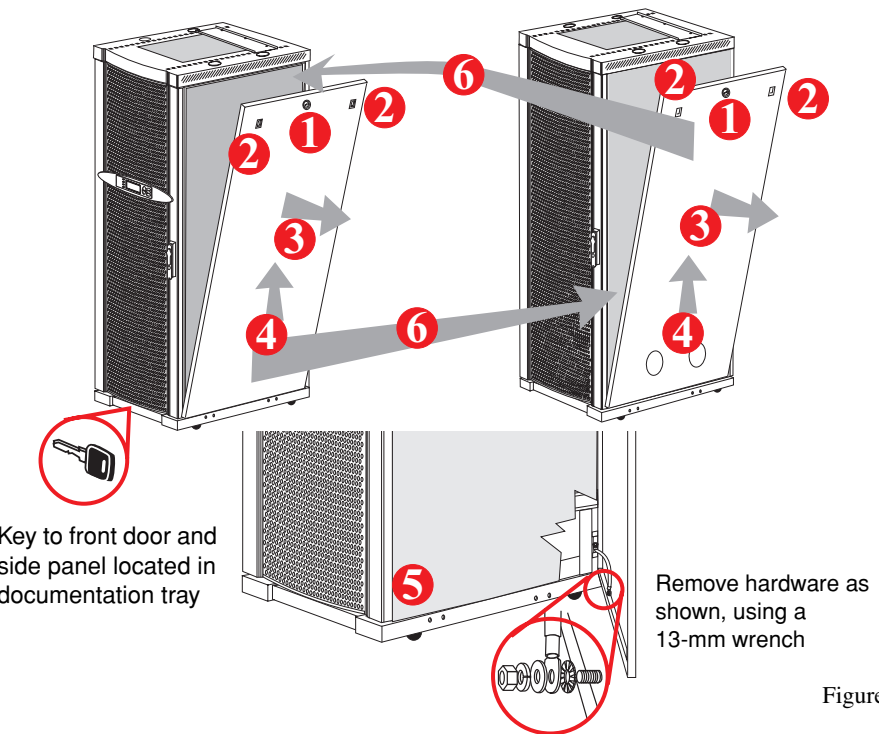


Figure 8

- Install wire routing hardware (supplied) between all battery enclosures.
- If required, adjust battery enclosures for hole alignment using stabilizing feet.

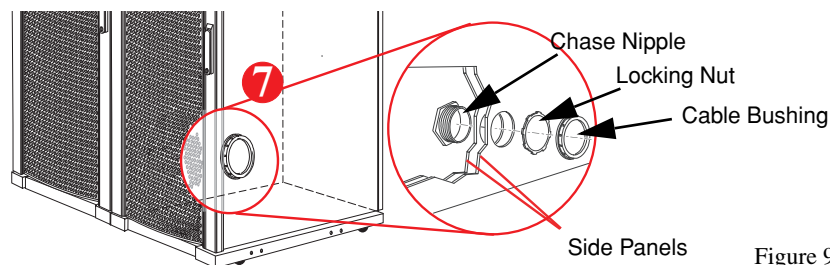


Figure 9

- Route DC power and ground wires from/to each XR Battery Enclosure to form a daisy chain to the UPS.
- Route XR comm cable from rear of the UPS to first adjacent XR Battery Enclosure.
- Save XR terminator for step 13.
- Route all other XR comm cables to form a daisy chain of XR Battery Enclosures (as required).

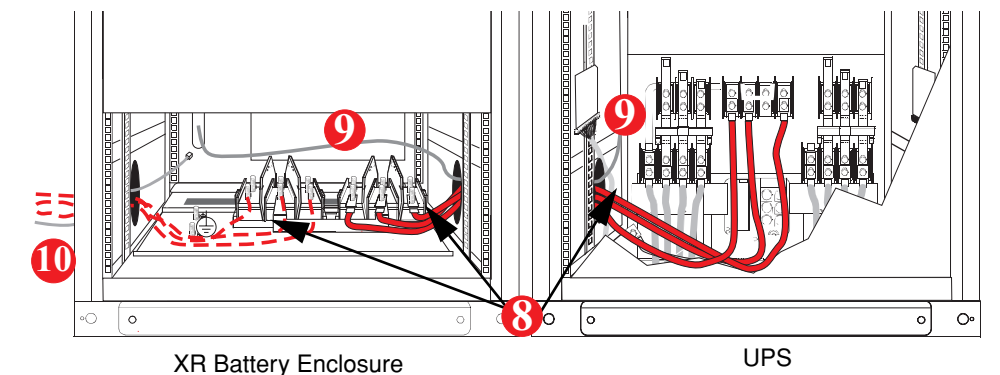


Figure 10

- Route all XR comm cables to the front of each XR Battery Enclosure through the wire access hole in the Input/Output Chassis.
- There will be one extra cable that is not required.
- Connect XR comm cables to all XR card ports.
- Position of connections is not important.
- Locate XR terminator (from step 9) in the open port of the last XR Battery Enclosure in the string.

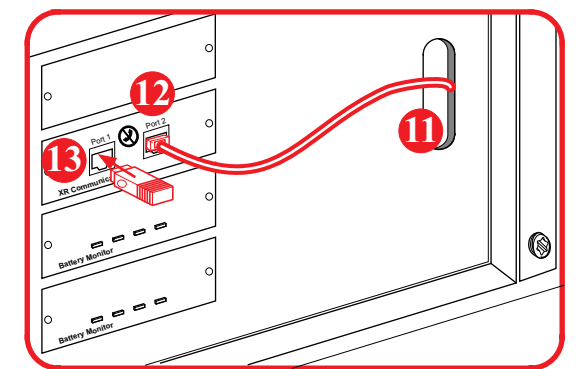


Figure 11



6 DC Power Input/Output Wiring

Power Terminal Lug Diameter is 8 mm – Torque Value: 53 lb-in (6Nm).

WIRING STEPS

- 1 Connect XR Battery Enclosure DC Output to UPS DC Input. Connect XR Battery Enclosures to UPS ground stud.
- 2 If applicable: Connect 2nd XR Battery Enclosure DC Output to 1st XR Enclosure DC Input. Connect ground wire as shown. Continue this string up to 4 XR Battery Enclosures.

! Power and ground wires provided are for internal side-panel wiring only. NOT for use in external conduit.

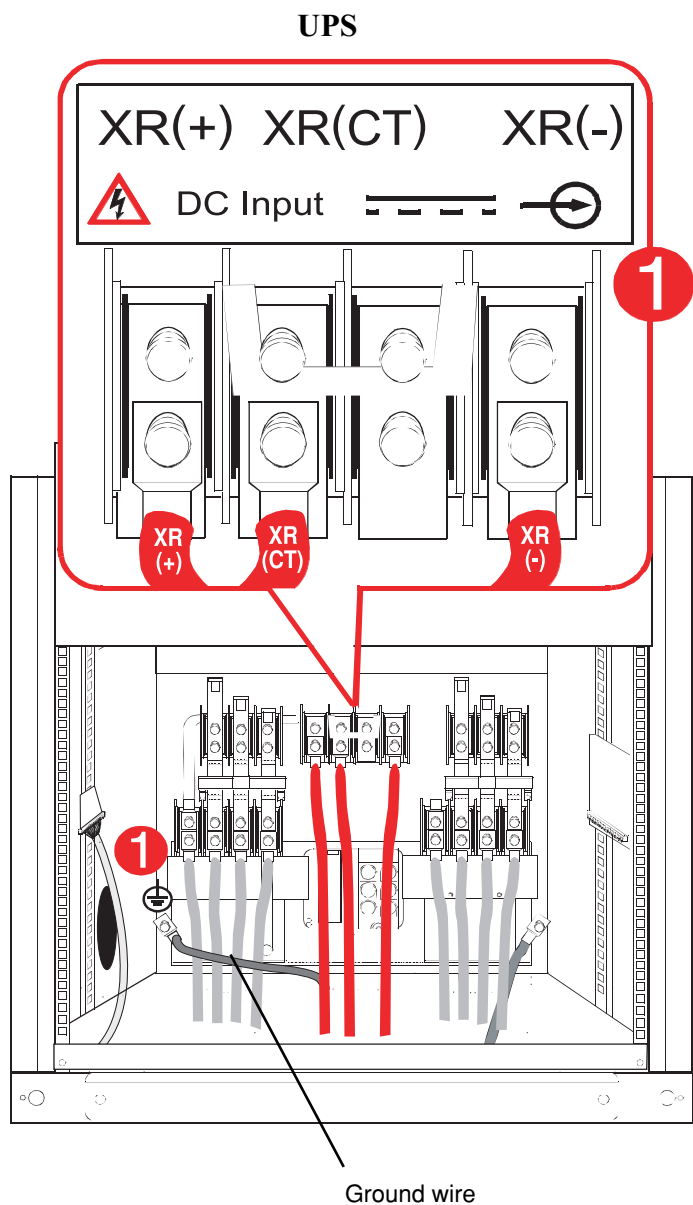
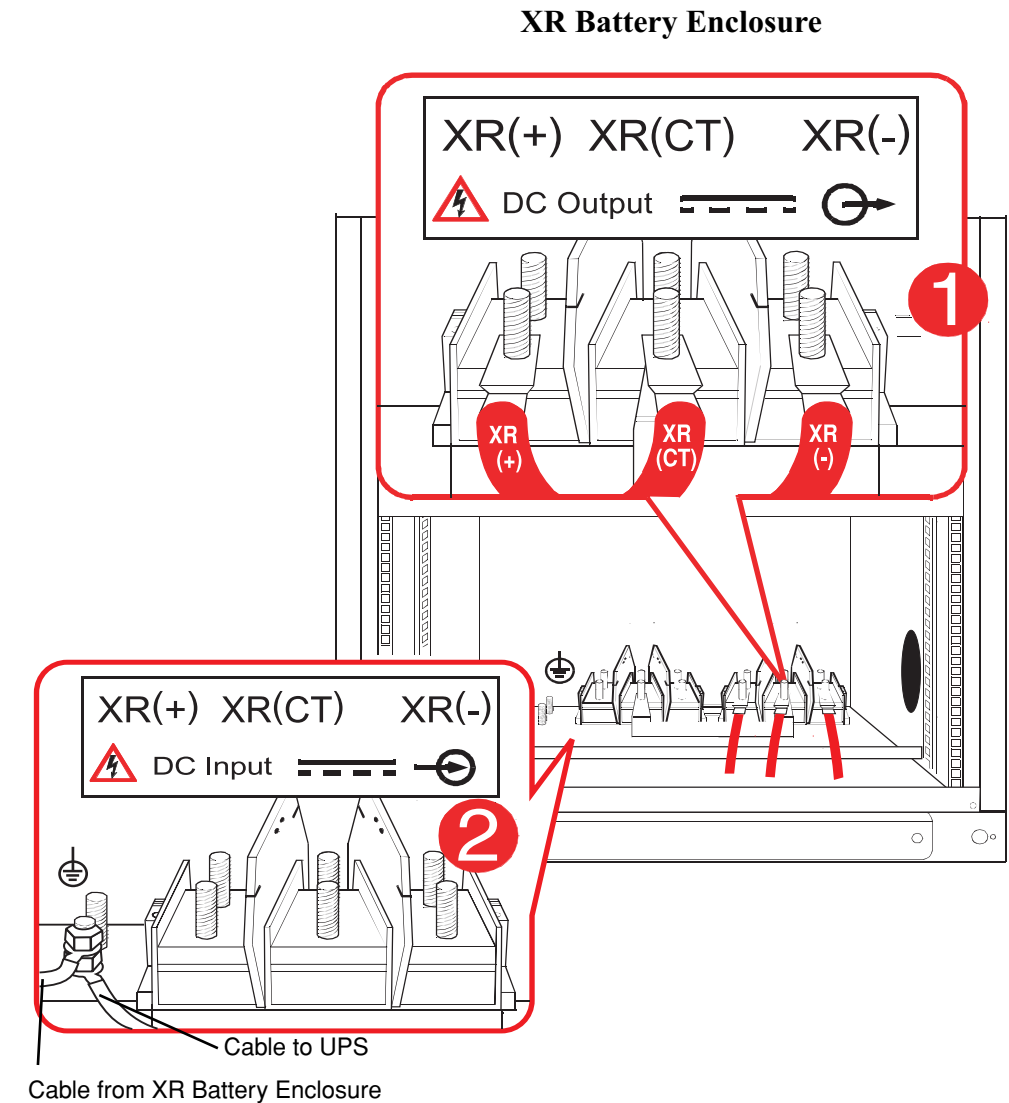


Figure 12



7 Interconnect Schematic

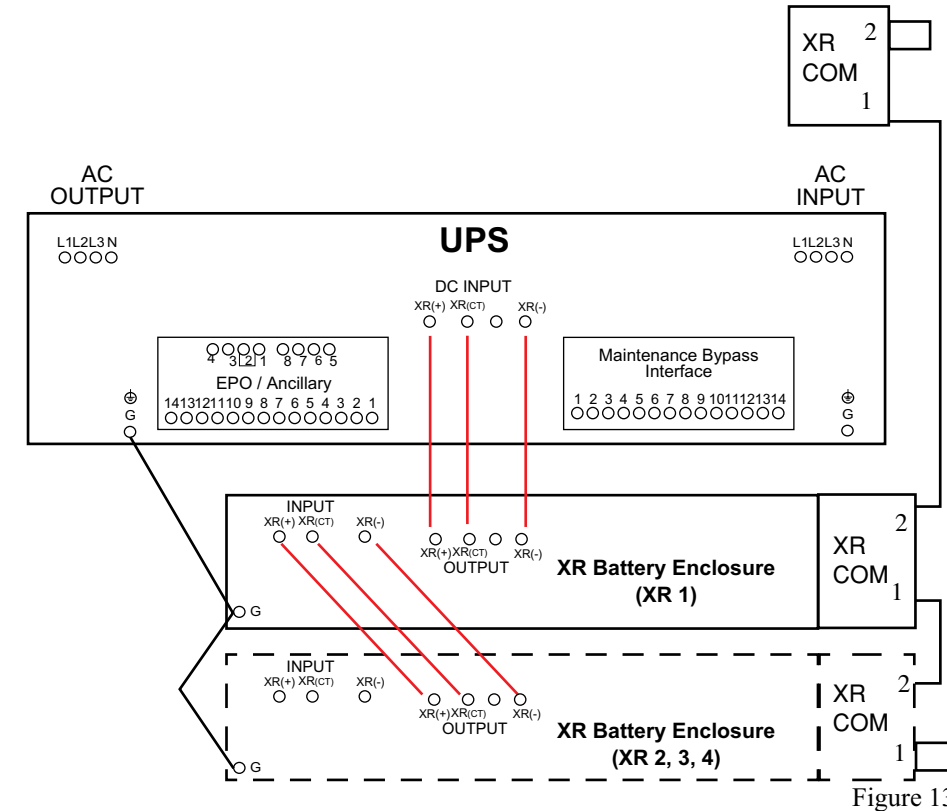


Figure 13

8 Power Wiring Verification

! Do not install modules in XR Battery Enclosure.

Use following procedure to verify that the XR Battery Enclosures have been wired properly.

- ☐ 1.Ensure all power wiring is torqued to a minimum of 53 lb-in (6Nm).
- ☐ 2.Check polarity between connections.
- ☐ 3.Reinstall all wiring access panel

If a problem occurs, call Tech Support at 1 (800) 800 4272. See Quick-Start /Basic Operation Guide for Tech Support Nos. in Europe (under Basic Troubleshooting).

Successful Wiring completed by:

Name: _____ Date: _____



9 XR Communication Cables (for Rear or Bottom Wiring only)

1 – 4 Open Right Side Panel to gain access to the communication cables.

Warning!
Ensure Total Power Off (Section 2).

! If side-panel access is obstructed, access from the rear.

5 Route cables through front holes of Battery Enclosures.

! Exit Battery Enclosures from bottom or top as required

6 Route all XR Comm cables to the front of each XR Battery Enclosure through the wire access hole in the Input/Output Chassis.

! If cable length is inadequate, a longer “CAT 5” cable, or couplers, can be used (not supplied).

7 Reinstall and lock all side panels.

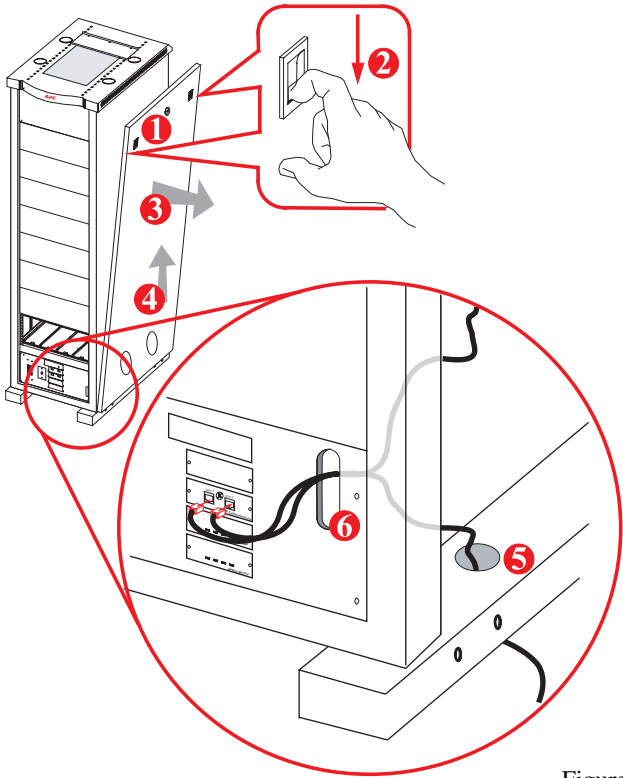


Figure 14



8 Connect XR comm cables to all XR comm card ports.

! Position of connections is not important.

9 Locate XR Terminator (located on XR comm cable from UPS) in the open port of the last XR Battery Enclosure in the string.

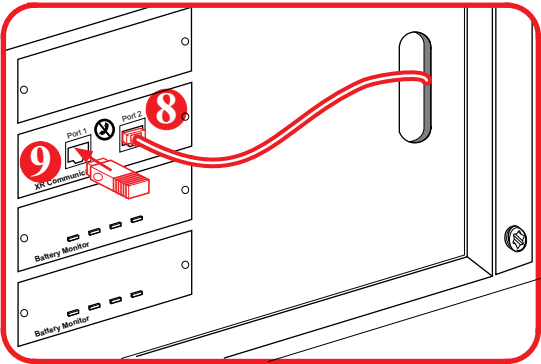


Figure 15

10 Installation Site Information

This Section should be completed by the electrician after the wiring installation:

Installed at (Company): _____

Customer Contact Name: _____

Telephone: _____

Wire size and type:
(If external) _____

Electrical Installation Completed by:

Name: _____ Date: _____

! Leave this Guide with the system in the Documentation Storage Tray located at the bottom of the UPS.



Appendix A

WARNING!
A battery can present a risk of electric shock and high short-circuit current. The following precautions should be observed when working on batteries:

- Remove watches, rings or other metal objects
- Use tools with insulated handles
- Wear rubber gloves and boots
- Do not lay tools or metal parts on top of batteries

When replacing batteries, replace with same number and type as installed. For customer-supplied external batteries, see manufacturer’s installation and safety instructions.

Appendix B

Technical Support

Country	Tech Support	Country	Tech Support
Austria	0800 296480	Norway	800 11632
Belgium	0800 15063	Poland	0801 345917
Czech Republic	0800 102063	Portugal	800 853182
Denmark	800 18153	Russia	095 9167166
Finland	9800 13374	South Africa	011 4652583
France	0800 906483	Spain	900 953533
Germany	0800 1801227	Sweden	020 795419
Greece	00800 35312206	Switzerland	080055 6177
Hungary	0640 200262	Turkey	0800 2113305
Ireland	1800 702000	UK	0800 132990
Israel	1800 9452206	USA & North America	1 (800) 800 4272
Italy	800 874731	Other Countries	353 91 702055
Luxemburg	0800 2091	Fax	353 91 755275
Netherlands	0800 022 4655	eSupport	http://esupport.apcc.com